

SEQUENCE LISTING

<110> CLAYMAN, GARY
NAKASHIMA, TORAHIKO
SPRING, PAUL

<120> METHODS AND COMPOSITIONS OF A NOVEL SERINE PROTEASE

<130> UTSC:631USD1

<140> UNKNOWN

<141> 2004-01-28

<150> 09/653,464

<151> 2000-08-31

<150> 60/151,776

<151> 1999-08-31

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<170> PatentIn Ver. 2.0

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225				230						235					240
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Met Gly Asp Ala Phe Ser Glu His Lys Ala Asp Tyr Ser Gly Met Ser
305 310 315 320

Ser Gly Ser Gly Leu Tyr Ala Gln Lys Phe Leu His Ser Ser Phe Val
325 330 335

Ala Val Thr Glu Glu Gly Thr Glu Ala Ala Ala Thr Gly Ile Gly
340 345 350

Phe Thr Val Thr Ser Ala Pro Gly His Glu Asn Val His Cys Asn His
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Phe Gly Arg Phe Ser Ser Pro
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Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala
35 40 45

Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys
50 55 60

Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Val Val Arg Ile Lys Ala
65 70 75 80

Glu Gly Lys Glu Ile Glu Asn Thr Glu Ala Val His Gln Gln Phe Gln
85 90 95

Lys Phe Leu Thr Glu Ile Ser Lys Leu Thr Asn Asp Tyr Glu Leu Asn
100 105 110

Ile Thr Asn Arg Leu Phe Gly Glu Lys Thr Tyr Leu Phe Leu Gln Lys
115 120 125

Tyr Leu Asp Tyr Val Glu Lys Tyr Tyr His Ala Ser Leu Glu Pro Val
130 135 140

Asp Phe Val Asn Ala Ala Asp Glu Ser Arg Lys Lys Ile Asn Ser Trp
145 150 155 160

Val Glu Ser Lys Thr Asn Glu Lys Ile Lys Asp Leu Phe Pro Asp Gly
165 170 175

Ser Ile Ser Ser Ser Thr Lys Leu Val Leu Val Asn Met Val Tyr Phe

180					185					190						
Lys	Gly	Gln	Trp	Asp	Arg	Glu	Phe	Lys	Lys	Glu	Asn	Thr	Lys	Glu	Glu	
195					200					205						
Lys	Phe	Trp	Met	Asn	Lys	Ser	Thr	Ser	Lys	Ser	Val	Gln	Met	Met	Thr	
210					215					220						
Gln	Ser	His	Ser	Phe	Ser	Phe	Thr	Phe	Leu	Glu	Asp	Leu	Gln	Ala	Lys	
225					230					235					240	
Ile	Leu	Gly	Ile	Pro	Tyr	Lys	Asn	Asn	Asp	Leu	Ser	Met	Phe	Val	Leu	
245					250					255						
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260					265					270						
Pro	Glu	Lys	Leu	Val	Glu	Trp	Thr	Ser	Pro	Gly	His	Met	Glu	Glu	Arg	
275					280					285						
Lys	Val	Asn	Leu	His	Leu	Pro	Arg	Phe	Glu	Val	Glu	Asp	Ser	Tyr	Asp	
290					295					300						
Leu	Glu	Ala	Val	Leu	Ala	Ala	Met	Gly	Met	Gly	Asp	Ala	Phe	Ser	Glu	
305					310					315					320	
His	Arg	Ala	Asp	Tyr	Ser	Gly	Met	Ser	Ser	Gly	Ser	Gly	Leu	Tyr	Ala	
325					330					335						
Gln	Lys	Phe	Leu	His	Ser	Ser	Phe	Val	Ala	Val	Thr	Glu	Glu	Gly	Thr	
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Glu	Ala	Ala	Ala	Ala	Thr	Gly	Ile	Gly	Phe	Thr	Val	Thr	Ser	Ala	Leu	
355					360					365						
Gly	His	Glu	Asn	Val	His	Cys	Asn	His	Pro	Phe	Leu	Phe	Phe	Ile	Arg	
370					375					380						
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Lys Val Asn Ala Tyr Thr Ser Leu Phe Phe Leu Ser Phe Pro Lys Ala
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Phe Cys Leu Arg Ala Ser Glu
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<213> Human

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Met Asn Ser Leu Ser Glu Ala Asn Thr Lys Phe Met Phe Asp Leu Phe
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Gln Gln Phe Arg Lys Ser Lys Glu Asn Asn Ile Phe Tyr Ser Pro Ile
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Ser Ile Thr Ser Ala Leu Gly Met Val Leu Leu Gly Ala Lys Asp Asn
35 40 45

Thr Ala Gln Gln Ile Lys Lys Val Leu His Phe Asp Gln Val Thr Glu
50 55 60

Asn Thr Thr Gly Lys Ala Ala Thr Tyr His Val Asp Arg Ser Gly Asn
65 70 75 80

Val His His Gln Phe Gln Lys Leu Leu Thr Glu Phe Asn Lys Ser Thr
85 90 95

Asp Ala Tyr Glu Leu Lys Ile Ala Asn Lys Leu Phe Gly Glu Lys Thr
100 105 110

Tyr Leu Phe Leu Gln Glu Tyr Leu Asp Ala Ile Lys Lys Phe Tyr Gln
115 120 125

Thr Ser Val Glu Ser Val Asp Phe Ala Asn Ala Pro Glu Glu Ser Arg
130 135 140

Lys Lys Ile Asn Ser Trp Val Glu Ser Gln Thr Asn Glu Lys Ile Lys
145 150 155 160

Asn Leu Ile Pro Glu Gly Asn Ile Gly Ser Asn Thr Thr Leu Val Leu
165 170 175

Val Asn Ala Ile Tyr Phe Lys Gly Gln Trp Glu Lys Lys Phe Asn Lys
180 185 190

Glu Asp Thr Lys Glu Glu Lys Phe Trp Pro Asn Lys Asn Thr Tyr Lys
195 200 205

Ser Ile Gln Met Met Arg Gln Tyr Thr Ser Phe His Phe Ala Ser Leu
210 215 220

Glu Asp Val Gln Ala Lys Val Leu Glu Ile Pro Tyr Lys Gly Lys Asp
225 230 235 240

Leu Ser Met Ile Val Leu Leu Pro Asn Glu Ile Asp Gly Leu Gln Lys
 245 250 255
 Leu Glu Glu Lys Leu Thr Ala Glu Lys Leu Met Glu Trp Thr Ser Leu
 260 265 270
 Gln Asn Met Arg Glu Thr Arg Val Asp Leu His Leu Pro Arg Phe Lys
 275 280 285
 Val Glu Glu Ser Tyr Asp Leu Lys Asp Thr Leu Arg Thr Met Gly Met
 290 295 300
 Val Asp Ile Phe Asn Gly Asp Ala Asp Leu Ser Gly Met Thr Gly Ser
 305 310 315 320
 Arg Gly Leu Val Leu Ser Gly Val Leu His Lys Ala Phe Val Glu Val
 325 330 335
 Thr Glu Glu Gly Ala Glu Ala Ala Ala Thr Ala Val Val Gly Phe
 340 345 350
 Gly Ser Ser Pro Thr Ser Thr Asn Glu Glu Phe His Cys Asn His Pro
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 Gly Arg Phe Ser Ser Pro
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 Gln Gln Phe Arg Lys Ser Lys Glu Asn Asn Ile Phe Tyr Ser Pro Ile
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 Ser Ile Thr Ser Ala Leu Gly Met Val Leu Leu Gly Ala Lys Asp Asn
 35 40 45
 Thr Ala Gln Gln Ile Ser Lys Val Leu His Phe Asp Gln Val Thr Glu
 50 55 60
 Asn Thr Thr Glu Lys Ala Ala Thr Tyr His Val Asp Arg Ser Gly Asn
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			20					25					30		
Trp	Ser	Ile	Ser	Ser	Thr	Met	Ala	Met	Val	Tyr	Met	Gly	Ser	Arg	Gly
		35					40					45			
Ser	Thr	Glu	Asp	Gln	Met	Ala	Lys	Val	Leu	Gln	Phe	Asn	Glu	Val	Gly
	50					55					60				
Ala	Asn	Ala	Val	Thr	Pro	Met	Thr	Pro	Glu	Asn	Phe	Thr	Ser	Cys	Gly
65					70					75					80
Phe	Met	Gln	Gln	Ile	Gln	Lys	Gly	Ser	Tyr	Pro	Asp	Ala	Ile	Leu	Gln
				85					90					95	
Ala	Gln	Ala	Ala	Asp	Lys	Ile	His	Ser	Ser	Phe	Arg	Ser	Leu	Ser	Ser
		100						105					110		
Ala	Ile	Asn	Ala	Ser	Thr	Gly	Asp	Tyr	Leu	Leu	Glu	Ser	Val	Asn	Lys
	115					120						125			
Leu	Phe	Gly	Glu	Lys	Ser	Ala	Ser	Phe	Arg	Glu	Glu	Tyr	Ile	Arg	Leu
130						135					140				
Cys	Gln	Lys	Tyr	Tyr	Ser	Ser	Glu	Pro	Gln	Ala	Val	Asp	Phe	Leu	Glu
145					150					155					160
Cys	Ala	Glu	Glu	Ala	Arg	Lys	Lys	Ile	Asn	Ser	Trp	Val	Lys	Thr	Gln
				165					170					175	
Thr	Lys	Gly	Lys	Ile	Pro	Asn	Leu	Leu	Pro	Glu	Gly	Ser	Val	Asp	Gly
		180						185					190		
Asp	Thr	Arg	Met	Val	Leu	Val	Asn	Ala	Val	Tyr	Phe	Lys	Gly	Lys	Trp
	195						200					205			
Lys	Thr	Pro	Phe	Glu	Lys	Lys	Leu	Asn	Gly	Leu	Tyr	Pro	Phe	Arg	Val
	210					215					220				
Asn	Ser	Ala	Gln	Arg	Thr	Pro	Val	Gln	Met	Met	Tyr	Leu	Arg	Glu	Lys
225					230					235					240
Leu	Asn	Ile	Gly	Tyr	Ile	Glu	Asp	Leu	Lys	Ala	Gln	Ile	Leu	Glu	Leu
			245						250					255	
Pro	Tyr	Ala	Gly	Asp	Val	Ser	Met	Phe	Leu	Leu	Leu	Pro	Asp	Glu	Ile
		260						265					270		

Ala Asp Val Ser Thr Gly Leu Glu Leu Leu Glu Ser Glu Ile Thr Tyr
 275 280 285
 Asp Lys Leu Asn Lys Trp Thr Ser Lys Asp Lys Met Ala Glu Asp Glu
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 Val Glu Val Tyr Ile Pro Gln Phe Lys Leu Glu Glu His Tyr Glu Leu
 305 310 315 320
 Arg Ser Ile Leu Arg Ser Met Gly Met Glu Asp Ala Phe Asn Lys Gly
 325 330 335
 Arg Ala Asn Phe Ser Gly Met Ser Glu Arg Asn Asp Leu Phe Leu Ser
 340 345 350
 Glu Val Phe His Gln Ala Met Val Asp Val Asn Glu Glu Gly Thr Glu
 355 360 365
 Ala Ala Ala Gly Thr Gly Gly Val Met Thr Gly Arg Thr Gly His Gly
 370 375 380
 Gly Pro Gln Phe Val Ala Asp His Pro Phe Leu Phe Leu Ile Met His
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<210> 13
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<400> 13
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tattctttct ttcatttcct aaggtctttt gtctcagggc ttctgagtag gagctgggtg 180
ccagcagtggt caaatagaaa gtgtttctca ctctccagca gctacagatg gatgtctact 240
ggggagcatt aaatagtatg ggtcagggtt attgagaaca actaatccta gaatgtttgg 300
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cctgtgggca tcttgactgc aattggcatg gtcctcctgg ggacccgagg agccaccgct 180

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actgaaataa gcaaactcac taatgattat gaactgaaca taaccaacag gctgtttgga 360
gaaaaaacat acctcttcct tcaaaaatac ttagattatg ttgaaaaata ttatcatgca 420
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Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala
          35              40              45

Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys
          50              55              60

Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Val Ile Glu Asn Thr Glu
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Ala Val His Gln Gln Phe Gln Lys Phe Leu Thr Glu Ile Ser Lys Leu
          85              90              95

Thr Asn Asp Tyr Glu Leu Asn Ile Thr Asn Arg Leu Phe Gly Glu Lys
          100             105             110

Thr Tyr Leu Phe Leu Gln Lys Tyr Leu Asp Tyr Val Glu Lys Tyr Tyr
          115             120             125

His Ala Ser Leu Glu Pro Val Asp Phe Val Asn Ala Ala Asp Glu Ser
          130             135             140

Arg Lys Lys Ile Asn Ser Trp Val Glu Ser Lys Thr Asn Glu Lys Ile
          145             150             155             160

Lys Asp Leu Phe Pro Asp Gly Ser Ile Ser Ser Ser Thr Lys Leu Val
          165             170             175

Leu Val Asn Met Val Tyr Phe Lys Gly Gln Trp Asp Arg Glu Phe Lys
          180             185             190

Lys Glu Asn Thr Lys Glu Glu Lys Phe Trp Met Asn Lys Ser Thr Ser
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<400> 21

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 35 40 45
 Met Gly Asp Ala Phe Ser Glu His Lys Ala Asp Tyr Ser Gly Met Ser
 50 55 60
 Ser Gly Ser Gly Leu Tyr Ala Gln Lys Phe Leu His Ser Ser Phe Val
 65 70 75 80
 Ala Val Thr Glu Glu Gly Thr Glu Ala Ala Ala Thr Gly Ile Gly
 85 90 95
 Phe Thr Val Thr Ser Ala Pro Gly His Glu Asn Val His Cys Asn His
 100 105 110
 Pro Phe Leu Phe Phe Ile Arg His Asn Glu Ser Asn Ser Ile Leu Phe
 115 120 125
 Phe Gly Arg Phe Ser Ser Pro
 130 135